

DRAWINGS ATTACHED

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(54) COSMETIC MARKING DEVICE

(71) We, FILTRONA FILTER G.M.B.H., a German Company of Post Reinbeck 13, Glinde Bei Hamburg, Germany do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention is concerned with a cosmetic marking device. It may be used for application of colours to the skin and in a principal application, an embodiment of the invention is used as an eye-liner.

A known method of applying colour to the eyelids uses a dispersion of pigments in an aqueous medium, the mixture of pigment and medium being applied to the eyelid by a brush. The mixtures are such that the pigment often settles to the bottom of the bottle and if the latter is not strongly shaken before use, a thin liquid is taken by the brush which does not produce a sharp line when applied to the eyelid.

Other known eye-liners include was pencils, which have the drawback that high pressures must be used to transfer colour to the skin and blocks of solid, water soluble, colour for application by a brush, a part of which must be dissolved each time they are used, which are inconvenient and messy to use.

This invention provides a cosmetic marking device comprising a rod-shaped tampon formed of continuous filaments aligned along the longitudinal axis of the tampon and bonded to each other at points of contact, the tampon constituting an integral capillary reservoir and application tip with one end tapering to form the tip, the tampon being surrounded except at the tip by a casing and retaining a fluent dispersion of a pigment with average particle size not greater than 1 micron in a liquid medium.

Between the filaments there are spaces within which the liquid dispersion medium,

containing the particles of pigment material, may be held and from which it may flow. The spaces are joined to each other and extend from one end of the tampon, which is sealed, up to the tip. Preferably the packing density of the filaments in the tampon is substantially constant over its whole length, so that a satisfactory flow of liquid and pigment to the skin may be provided. The reinforcement of the tip by increasing the packing density or by impregnating it with resinous bonding agents is not generally advisable. Such means tend to reduce the space between the filaments so that the flow of liquid medium is easily impaired.

EXAMPLE 1

An example of a suitable tampon for use with the invention comprises a cylindrical bundle of crimped continuous filaments of cellulose acetate, having an individual denier of 8 and a total denier of 35,000. The tampon has a length of 120 mm. and a diameter of 5.5 mm. One end is planar, the other end has the form of a cone having an included angle of 20°. The filaments extend without break from the planar end and terminate at the conical surface. They are bonded to each other at points of contact to form a self-sustaining body, the filamentary density of which is substantially constant over the whole length, including the tip. Other filamentary materials that do not swell unduly in the liquid medium may be employed in place of cellulose acetate. The longitudinal alignment of the filaments provides longitudinally extending spaces throughout the tampon which permit the flow of the medium and pigment, and at the same time are sufficiently narrow to retain the liquid by capillary attraction.

In the drawings Figure 1 shows a longitudinal view partly in cross-section of an embodiment of the invention. Figure 2 shows a cross-section along the lines A-A' of Fig-

ure 1. Figure 3 shows a cross-section through a further embodiment of the invention and Figure 4 shows a cross-section along the lines B-B' of Figure 3.

- 5 Referring now to Figures 1 and 2, the cosmetic marking device 1 comprises a barrel 2, one end of which is closed by a threaded plug 3, having a gripping prong 4, which centralises and retains a tampon 5, 10 for example one of the type which has been described above and prevents it from moving. Three knobs 6 formed within the bore of the barrel 2, centralise the tampon 5 at its lower end, thus providing an air passage 15 7 which prevents different pressures from arising within different parts of the barrel of the device. At one end the application tip 8 of the tampon projects. A cap 9 is secured in frictional engagement with the barrel 2, 20 when the device is not in use.

- In Figures 3 and 4 an alternative embodiment is shown. Corresponding parts have the same numbers as the parts shown in Figures 1 and 2 and serve similar purposes. 25 In this the barrel 2, extends so as to leave only a small part of the tip 8 projecting beyond it. The barrel 2 fits closely around the tampon 5 and has a groove 10 formed within its wall to act as an air equalisation channel. The part 11, of the barrel 2, which 30 extends nearer to the end of the tip 8, prevents the tip from bending unduly under sideways pressure when it is used.

- The colouring liquid which is applied by 35 the device, comprises a pigment, having a particle size smaller than 1 micron and preferably smaller than 0.5 microns, dispersed in a liquid medium which will have no harmful effect upon the skin. The proportions of the components should be such 40 that the surface tension is low and the viscosity not so low that the material flows to freely on the skin nor so high that it does not readily flow through the body of the tampon to the application tip. A pigment 45 with fine particles enables a colouring liquid to be produced 70% of which or more may flow from the reservoir to the application tip.

- 50 The quantity of each constituent of the colouring liquid may fall within the ranges shown below:

- i. Pigment 10-25%
- 55 ii. Dihydric alcohol 10-25%
- iii. Polyhydric alcohol (3 or 4-OH groups per molecule) 5.0-15.0%
- iv. Non ionic wetting agent 1.0-5.0%
- v. Binding agent 1.0-5.0%
- 60 vi. Flotation agent 0.1-1.0%
- vii. Preservative 0.1-0.5%
- viii. Demineralised water to 100%.

- The following example of a colouring liquid 65 specifies constituents which may be admixed in accordance with the above composition:

EXAMPLE 2

- i. Permanent Carmine FB (colour index number 12490) 70
- ii. Propan-1,2-diol
- iii. Propan-1,2,3-triol
- iv. Polyoxyethylene tridecyl alcohol (a polymeric substance of MW=730 formed by condensation of ethylene oxide and tridecyl alcohol). 75
- v. Sodium carboxymethyl cellulose.
- vi. Pure colloidal silicic acid.
- vii. Benzoic acid.

To prepare the colouring liquid the pigment is milled with the dihydric and higher 80 alcohols and the wetting agent, until the average particle size is less than 0.5 microns. The dispersing agent, water and flotation agents may be present during the milling which is carried out on, for example, a 85 roller mill. After milling the rest of the constituents are added and the mixture is agitated by a high speed dispersion mixer.

An appropriate quantity of colouring liquid is injected into each marking device 90 after assembly of the casing and the tampon and the end is sealed by means of the plug.

WHAT WE CLAIM IS:—

1. A cosmetic marking device comprising 95 a rod-shaped tampon formed of continuous filaments aligned along the longitudinal axis of the tampon and bonded to each other at points of contact, the tampon constituting 100 an integral capillary reservoir and application tip with one end tapering to form the tip, the tampon being surrounded except at the tip by a casing and retaining a fluent dispersion of a pigment with average particle 105 size not greater than 1 micron in a liquid medium.
2. A marking device according to claim 1 wherein the packing density of the filaments is substantially constant along the 110 length of the tampon.
3. A marking device as claimed in claim 1 or 2 having a passageway along the bore of the casing which permits air to move along the length of the tampon. 115
4. A marking device as claimed in claim 3 wherein the casing comprises a barrel into the bore of which the tampon is fitted, the passageway comprising a groove which extends along the length of the bore. 120
5. A marking device as claimed in claim 3, wherein the casing comprises a barrel, the bore of which is provided with knobs which space the tampon from the bore over its whole length so as to form the passageway. 125
6. A marking device as claimed in claim 4 or 5 in which the barrel is closed at one end by a plug, the inner face of which terminates in a prong which secures the tampon. 130
7. A marking device as claimed in any of the preceding claims wherein the casing

has a frustoconical end which surrounds all but the very end of the tapered application tip and supports it against radially directed forces.

5 8. A cosmetic marking device according to any of the preceding claims wherein the dispersion contains a dihydric alcohol.

9. A marking device according to claim 8 wherein the dispersion contains from 1-5%
10 of a non ionic wetting agent.

10. A marking device substantially as described with reference to Figs. 1 and 2 of the drawings.

11. A marking device substantially as
15 described with reference to Figs. 3 and 4

of the drawings.

12. A marking device as claimed in any of claims 1 to 11, the tampon of which is substantially as described in Example 1.

13. A marking device as claimed in any 20 of claims 1 to 12, the pigment dispersion of which is substantially as described in Example 2.

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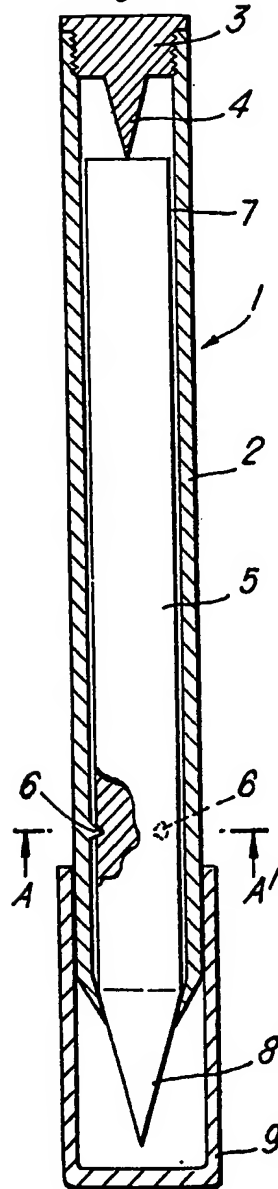
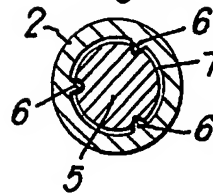
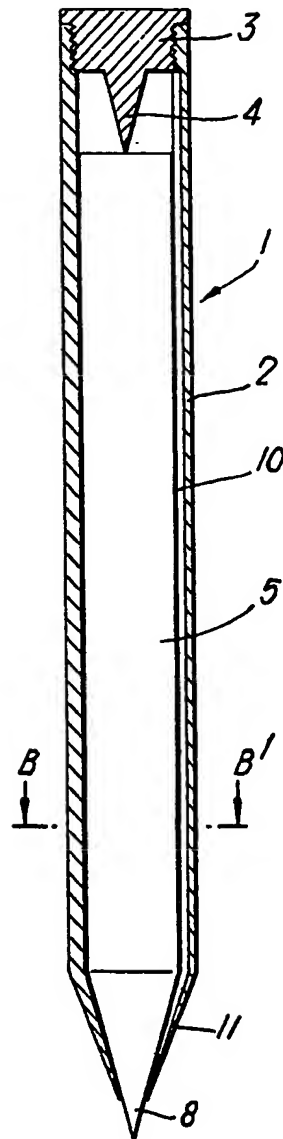
Fig. 1.*Fig. 2.*

Fig. 3.Fig. 4.